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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,736	12/02/2003	Kyung Chul Woo	0465-1106P	2082
2292	7590	09/21/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			PATEL, RITA RAMESH	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/724,736

Applicant(s)

WOO ET AL.

Examiner

Rita R. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/27/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Acknowledgement has been made of applicant's claim for priority under 35 U.S.C. 119. This application claims benefit of Korean Application No. 10-2002-0075909 filed on December 2, 2002.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 5-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Arai et al. herein referred to as "Arai" (US Patent No. 6,886,371).

Arai teaches a washing machine has a partial washing apparatus, which has a supersonic resonator, which is driven by an oscillator to generate supersonic vibration and a supersonic vibration horn. A washing liquid is fed to the partial washing apparatus so as to be agitated by supersonic waves, which are then fed to an article to be washed to achieve partial washing of the article. The partial washing apparatus is detachably fitted to the washing machine proper at approximately the center of a lid of the washing

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machine proper. The partial washing apparatus may be used as a handy-type partial washing apparatus when held at a grip portion of the partial washing apparatus (Abstract). Arai's disclosure of a pumping device 39 reads on applicant's claim for a water discharge pump; opening 2 and washing sink 6 of Arai read on applicant's claim for a tub for containing laundry; tube 25c of liquid feed tank 25 reads on applicant's claim for a water circulating pipe; and partial washing apparatus 5 encased within case 11 reads on applicant's claim for a water adsorption acceleration mean for facilitating the adsorption of water in the laundry by processing the re-circulated water. Arai's teaching of a supersonic resonator 12 reads on applicant's claim for a process incurred within a water pipe whereby water is electrically charged. Electric leads 15 of Arai read on applicant's claim for a pair of electrodes; DC motor and DC voltage source of Arai (col. 16, lines 38-46) read on applicant's claims for a power source for applying a DC voltage. Supersonic resonator 12 and supersonic vibration horn 13 of Arai read on applicant's claim for a means for generating an ultrasonic wave in the water. Vibration horn 13, as seen in Figure 6 has opposing side walls which may read on applicant's claim for a pair of ultrasonic vibration plates. Furthermore, Arai discloses that the vibration horn functions at a predetermined flow rate (col. 8, lines 57-60).

Re claim 7, Arai teaches that the user presses an article 30 to be washed onto the tip 13a of the supersonic vibration horn 13 exposed from the bracket member 23, and then slides the article 30 laterally repeatedly. The synergistic effect of the washing liquid agitated by supersonic vibration and the vibrating mechanical force exerted by the tip 13a makes highly effective removal of dirt of the soiled portion 30a deposited

partially on the article 30 (col. 11, lines 57-64). Said disclosure of Arai reads on applicant's claims for transducing a power of the ultrasonic wave of said ultrasonic oscillator into the mechanical vibratory energy applied to the water.

Additionally, as priorly taught, electric leads 15 read on applicant's claim for an electrical charging means. The electric leads 15 connect the supersonic resonator 12 to an oscillator 15 (See Figure 1). Oscillator 17 generates an electrical pulse signal for driving supersonic vibration. Moreover, oscillator 17 also reads on applicant's claim for an ultrasonic wave generating means (See Figures 10 and 11). Tip 13a of Arai reads on applicant's claim for one end of said water circulation pipe that is an exiting end.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arai as applied to claim 3 above, and further in view of Imai et al. herein referred to as "Imai (US Patent No. 5,570,596).

Arai teaches the claimed invention, except fails to specify if any transformer power source details are provided in rectifying the incoming AC voltage to DC voltage.

However, Imai teaches a washing machine incorporating such a transformer for rectifying the output of a step-down transformer supplied with AC voltage in achieving

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DC voltage. Imai teaches an electrical arrangement of the washing machine wherein a rectifier circuit 39 is connected via a step-down transformer 38 to the AC power supply 33. A voltage regulator circuit 40 including a switching regulator 40a is connected to an output side of the rectifier circuit 39, so that a DC regulated voltage is supplied to a control circuit 41 (col. 5, lines 29-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate a step-down transformer at the supplied AC voltage in the washing machine of Arai, as taught to be known in the art of washing machines by Imai because step-down transformers allows a device that requires a low voltage power supply to operate from a higher voltage; the transformer takes in the high voltage at a low current and puts out a low voltage at a high current and thus achieving a desired DC regulated voltage. Such modification of voltages from an alternating current to a direct current is commonly known in the art of washing machines for providing an effective energy source.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Smulowitz (US Patent No. 6,612,137) teaches a magnetic/electromagnetic apparatus for laundering garments in a washing machine. Application of permanent magnetism or electromagnetism to the interior or exterior of a washing machine to elevate the normal cleaning ability of water via increasing solvency and inducing eddy currents to ionize and "soften" the water; the magnetic apparatus is


submerged in washing water inside the drum of the machine, affixed to the exterior of the drum where water is contained, or to the incoming water line to the machine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita R. Patel whose telephone number is (571) 272-8701. The examiner can normally be reached on M-F: 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RRP


MICHAEL BARR
SUPERVISORY PATENT EXAMINER